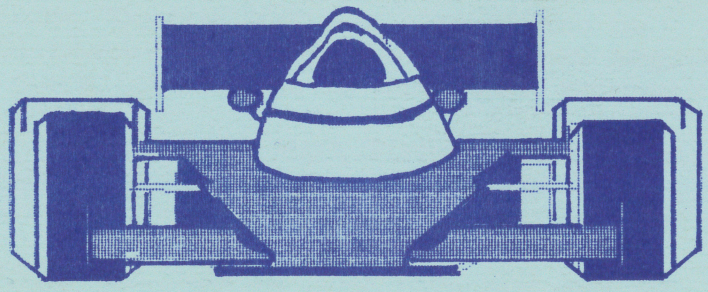
SOUTH AUSTRALIAN

SEGA

MAGAZINE



WRITTEN AND PUBLISHED BY THE ADELAIDE SEGA USER CLUB

Editorial

At last, the first issue of our magazine is out!! By now you may be wondering what this magazine has to offer you. All I can say is "Plenty!" We have plenty of information and tutorials and many programs in our first issue. Let's take a closer look at the people who contribute to this magazine.

Firstly there is me! I organize this magazine and make sure that everyone is spellling rite! (I do a good job don't I??) I am also responsible for the "Problems" page.

Next there is our very talented CP/M programer Jan Jacobsen. He writes the column "Doctor DOS" In this column he will teach you how the use the new SegaDOS 2 (more later) that is due to be released soon.

Then we have Mark Fisher, our in-house "Pull-apart-er/Machine code programer extrodinaire". He will teach you how to pull apart things, and show you many little, but usefull programs, and how to get at those "hidden things" lurking in our machines. Unfortunately he blew up his disk drive experimenting, so he couldn't contribute to this issue.

Then there is Ian Dunn he are very good at both BASIC and machine code programing, and he is going to show you how to write a fast hybrid machine code/BASIC game.

Then we have John Maynard, who is into modems and Viatel, and his column will explain to you how to get the most out of your Micromodem 3.

We also have Paul Schwartz who will teach you to program in machine code, but not in this issue. His article fell victim to those mysterious forces that

corrupt any disk they get their hands on, and he couldn't re-write it in time for the deadline. Never the less, we will hopefully print his article nexy issue!

And last but not least there is you! For without you this magazine would have no purpose. If you have written a really good program that you would like to share with other people, then send it in, we will be more than happy to print it in our magazine. Just a couple of notes on program submissions, we would like a copy on tape or disk if possible, and a printed copy. If you don't have a printer, just send it on tape. We also accept hints and tips.

If you are the type of person who likes to keep up-to-date with all the new releases, then this column is for you, because the editorial will also serve as a "What's new?" column. Well what is new?...Sega have written a new Disk Operating System (DOS) for the disk drive. It is called SEGADOS 2, and it has CP/M compatability. It should hit the market place soon and is expected to retail for $99...There is to be a "Graphics Tablet" released soon, that will allow you to easily create computerised works of art. There has been no mention of release date and price, but I suspect that it will be released at the price of $75...Sega are planning to release a Hard Disk drive for the Sega, which will have the capacity of around 1M (1 megabyte, 1000K or 1,000,000 bytes!), it will probably sell for around $700-$1000.

Well my space is running out so I must finish here, more next time. Segalater!!

Jamie Anderson

Problems and Letters to the Editor

If you have any praise, complaints, problems or great insights, then why not share them with us? Send them to -

Letters to the Editor,
C/- 14 Derribong Road,
Modbury North,
ADELAIDE 5092.

Dear Editor,

I would like to take this opportinuty to thank you for producing a magazine for my Sega computer.

I feel that the Sega is an excellent machine, but sadly it has been largely ignored by magazines in general. I feel like an island in the middle of the ocean, thank you for building a bridge to bring me into contact with other Sega Users.

Yours sincerely

Mr. K Allen
Whyalla.

Dear Mr Allen,

Thank you for that most heart warming letter Mr Allen, we are proud to know that we are helping people.

If anyone else wishes to get in contact with their local users group, or wishes to advertise their users group, then write to

Users Groups,
C/- 14 Derribong Road, .
Modbury North,
ADELAIDE 5092.

Ed.

Dear Editor,

My friend has a Tandy TRS-80 Colour Computer, and Its BASIC is almost identical to ours, differing only by the extra commands that support our extra features.

Anyway to cut a long story short, I have been trying to convert a program to our BASIC, but have run into trouble. I keep getting an error in line 20, and I can not for the life of me see what is wrong with it.

Can you help me please? The line reads -

```
20 L=10:R=L*32:PI=3.14:DIM PT(100):SCREEN 2,2:CLS
```

Yours faithfully,

Mr J. Howard,
Highbury.

Dear Mr Howard,

The error lies in the instruction PI=3.14. Your Sega already knows the value of PI (3.1415926536). As the word PI is a BASIC command, it can't be used as a variable, it is like saying PRINT=3.14!

Just take that instruction out and the program should work.

Ed.

Arcade Games Part One

Most Sega computer arcade games can be dissected into five elements from a programing point of view. These elements are -

- Titles, scoring and screen boarders
- Rapid and smooth movment of sprites
- Smooth and responsive joystick movment
- Scrolling backgrounds
- Sound

Sega computer owners who have written arcade-style games programs totally in Sega BASIC will be aware that it is possible to produce satisfactory results for titles, scoring and screen boarders, and to a limited extent sound. However these games written in BASIC can't produce scrolling backgrounds, responsive joystick movement, and smooth sprite movement, and therefore the programer can be disappointed with the final results of his efforts. Usually the game is so slow, that it becomes boring or unchallenging, or alternately the movement is fast but very jerky. Because BASIC programs are naturally slow, it is necessary to write the "processor intensive" parts of the program in machine code.

The aim of this article is to share with you the information obtained by experience with the Sega computer which would enable you to write "hybrid" BASIC and machine code programs which will result in dramatically improved, self-developed style computer games.

As stated, the essence of my approach

is to write hybrid programs - BASIC for those parts of the program, where adequate results can be achieved, and Z80 machine code for those "processor intensive" parts of the program, where BASIC gives up the ghost. I have presented this article in five parts, each dealing with one of the headings set out in the begining of this article. Here is Part one - Titles, scoring and screen boarders.

This part provides an example of an approach and technique which can be used for that part of an arcade-style game program which sets up the titles, scoring and screen boarders. The Sega has somewhat unique capabilities in this area, and the following program is a useful demonstration. Type it in and RUN it.

```
10 REM **********************
20 REM **  ARCADE GAME   **
30 REM **       BY       **
40 REM **    IAN DUNN    **
50 REM **********************
60 SC=0
70 SCREEN 2,2:CLS
80 COLOR0,15,(0,0)-(255,191),15
90 LINE (5,0)-(250,0),6
100 LINE (5,191)-(250,191),6
110 LINE(5,0)-(5,191),6
120 LINE (250,0)-(250,191),6
130 LINE (7,2)-(248,2 ),6
140 LINE -(248,25),6
150 LINE -(7,25),6
160 LINE -(7,2),6
170 LINE (7,166)-(248,166),6
180 LINE -(248,189),6
190 LINE -(7,189),6
200 LINE -(7,166),6
210 PAINT(125,175),5
220 CURSOR55,9:COLOR5:PRINT CHR$(17);"ARCADE GAME"
230 CURSOR25,155:COLOR6:PRINT CHR$(16);"SCORE";SC
240 FOR T=1 TO 200:NEXT T
250 SC=SC+1
260 IF SC=100 THEN SC=0
270 BLINE (55,155)-(85,165),,BF
280 GOTO 230
```

Lines 80 and 270 are particularly interesting and you should find these useful in your own programs.

Line 60, This line sets the score to 0.

Line 70 sets the Sega to the graphics screen.

Line 80 makes the background boarder the same colour as the centre if the screen.

Lines 110 to 200 rule up the screen and create the boarders for the game.

Line 210 uses the PAINT statement to colour the box on the lower portion of the screen.

Line 200, this part of the program allows you to title your game. CHR$(17) tells the computer to print letters in double size - CHR$(16) sets the Sega back into normal size characters. You can replace the letters between the quotes (") with the name of your game.

Line 230; notice that the variable SC is included in this line. At line 60, SC=0; SC changes as the game progresses to record the score.

Line 240, this is a delay loop. The machine hangs around for 200 cycles before continuing.

Line 250 increments the score (SC) by one.

Line 260 places a limit upon the score, ie 100. When the score exceeds 99, the score is reset to 0.

Line 270 is an eraser. It gives you the capacity to rub out anything on the graphics screen, by identifying the area using the cursor co-ordinates. In this case, we are rubbing out the old score, so that we can print the new one.

Line 280 loops back to print the score and then repeat the procedure.

Well this is the end of Part One, Part Two will be printed in the next issue.

Ian Dunn

An Introduction to the MICROMODEM 3

Before I delve into the workings of this incredible piece of technology, I would like to explain the meaning of the word "MODEM".

The word "MODEM" is an abbreviation for "MODULATOR/DEMODULATOR". The process involves the sending of a tone, and varying it in sympathy to the signal we wish to send - this process is called MODULATION.

The DEMODULATION process is the reverse of this, taking the tone and from the variations, recreating the required signal. By using this method, signals can be sent reliably anywhere around the world and is the basic method also employed in radio and television transmission.

The JOHN SANDS MICROMODEM provides all owners of SEGA computers with the ability to communicate reliably with hundreds of data bases in Australia and around the world.

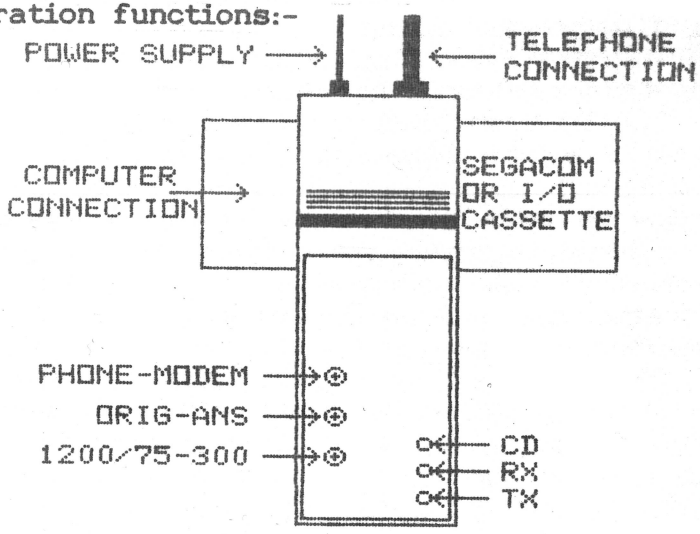
As well as supporting the usual 300 baud (Bits per second) mode of originate and answer, this modem also supports 1200/75 baud half duplex data transfer. This means that all data you receive will be at the fast rate of approximately 150 CPS (Characters per second), four times faster than 300 baud. Transmission speed with the modem in 1200/75 mode, full duplex is 75 baud, approximately 9 CPS. If or when you purchase a modem, you will need the "SegaCom" communications package (Cartridge or Disk). With either, you will have access to all Prestel videotex systems, (eg Viatel, Austpac etc) as well as Teletel and other ASCII systems.

The ASCII mode will allow you to communicate with mainframes, bulletin

boards and other computer users, no matter what type of modem or computer they are using.

After reading the last few paragraphs of this article, you may be wondering what some of the words mean. Don't despair, because I will give a detailed definition of all functions a litte later on.

Below is a Layout Diagram with operation functions:-



The "PHONE/MODEM" switch selects either Phone or Modem, (A word of caution, when you have finished using your modem, make sure you place the switch to Phone position or your friends will not be able to ring in!)

The ORIGINATE/ANSWER selector allows you to select either ORIG or ANS modes.

The 1200-75/300 switch selects the baud rate.

The CARRIER DETECT INDICATOR (CD) glows red, when carrier is found, ie a computer is trying to "talk" to yours.

The RECEIVE INDICATOR (RX) glows yellow when the modem is receiving data.

The TRANSMIT INDICATOR (TX) lights up

green when modem is transmitting data.

After correctly fitting the modem to the computer, a mode of operation must be selected. You can select either 1200/75 or 300 baud as required by the database with which you are communicating.

Videotex services such as VIATEL, use the 1200/75 baud rate while most other data bases and bulletin boards use 300 baud. If you are communicating with another computer or data base using 300 baud mode, the modem should be in ORIGINATE mode. Similarly, ANSWER mode should be selected for answering a call.

The ORIG/ANS switch is not required in 1200/75 mode. This switch is only used to enable or disable an equalizer in the modem to allow you to get the best results possible from your phone line. If you are receiving line errors (ie garbage is being printed on the screen), try the other position of this switch.

Before I go any further, I must inform you of the MAIN MENU which appears on the screen, when you switch on the computer or the [RESET] switch is pressed. NOTE - When you are powering up the system, you must ALWAYS switch the computer on first

The "SegaCom" title appears at the top of the MAIN MENU screen, with the mode selection options directly below (eg PRESTEL, TELETEL or ASCII).

Now let's pretend that we want to dial VIATEL. Firstly we would have to select the "P" option from the MAIN MENU, which puts you in PRESTEL mode. Then set the 1200/75 - 300 switch to 1200/75, and the PHONE/MODEM switch to phone. After dialling VIATEL, an answer tone will be heard. The PHONE/MODEM switch should then be set to "MODEM", to place the computer "on line". The CARRIER DETECT INDICATOR (CD) should light up, indicating that the

modem is receiving the tone from the database. Communication can now proceed.

When the modem is actually receiving information, the Receive Indicator (RX) will glow yellow. When information is being sent, the Transmit Indicator (TX) will light up green. The Carrier Detect Indicator (CD) will light up red when in use.

To correctly communicate with another computer, the data being sent must be compatible (eg Baud rate, Parity, Word length and the number of Stop bits must be the same for correct operation).

At the beginning of this article, I mentioned the word "Duplex", well there are two modes available to you - Half or Full. In full duplex everything that is transmitted is retransmitted back by the other computer (for error checking). This means that everything you see on your screen, has been received off line. In half duplex mode, transmitted information is not retransmitted and so the screen must display what we are typing as well as the information being received.

The character code can be made up of anywhere between 5 and 8 bits,this is called "Word Length". The most commonly used code is ASCII (American Standard Code for Information Interchange), which uses a 7 bit code. To signify the beginning of a character, a start bit is sent, followed by the character code. To signify the end of a character code, a stop bit is sent. Some computer databases require two stop bits, which can be selected by the'SEGACOM' software.

This brings me to the end of the first part of this article, until the next edition, happy communicating!

John Maynard

The best way to overcome a fear of computers is to learn how to turn them ON and OFF, without damaging anything. If you turn the computer on properly, the operating system (OS) takes over and waits for you to type a command (ie wait for YOU to tell it what to do). If you type something in that the OS dosen't understand, it will tell you, and wait for you to type something in again. Try it, if your computer is already turned on, just press any keys then press [CR], and see what happens. If you are in CP/M or SegaDOS (which you should be for this article), the computer will probably repeat what you typed, followed by a question mark, after it has tried to look for it on disk. It will then wait again for your next command.

You can't hurt the computer by typing at the keyboard. You might, however, erase a file if you accidently type the wrong thing in! So wait, and read on before trying to type anything else.

Two common types of disks are used, those being the floppy disks and the hard disks. FLOPPY DISKS are also called DISKS or DISKETTES, and come in four formats: 8 inch, 5 1/4 inch, 3 1/2 inch and 3 inch (Sega's size). These can be used to store a large amount of data at a low cost. However, floppy disks are relatively slow compared to hard disks, and despite their large capacity you may find that you will need a bigger capacity disk to store some files. HARD DISKS solve this problem. They offer large capacity and high speed access, unfortunatley, they are a bit pricey (See editorial - Ed.).

HANDLING DISKETTES

Even though the Sega disks can take rougher treatment than the normal ones can, it still is advisable to take care when handling them. For example spilling coffee on them dosen't do them much good! It is a good practice to not have a disk in the drive when you switch it on, and similarly when you switch it off. When you switch the drive on and off it doesn't have control over what it is doing, so it may write some junk on the part of the disk that it is over, this is disasterous to say the least!! You should never put them near anything magnetic, and you should put them back in their case after you have finished with them. You should never leave a disk in the drive for days, as this will wear out the spring that ejects the disk, and it leaves the shutter open, so dust can get on the surface, and corrupt the data on the disk.

READY TO START

Turn on the disk drive and then the computer and insert the CP/M System Disk into the drive. After CP/M has finished loading, this prompt will appear on your screen "A>", this means that CP/M is ready and waiting for you. You have just preformed a "bootstrap" operation, or "cold start,", or "cold boot". Some people prefer to think machines are cold until you turn them on, or that you "bring up" an OS by kicking it.

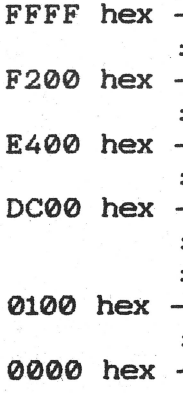
The term "bootstrap" actually came from the idea that if you were strong enough, you could "pull yourself up by your bootstraps". The resident program (IPL) "pulls CP/M off the disk and starts it", (ie the system starts itself).

THE PARTS OF CP/M

The CP/M OS is divided into several parts, each of which occupies a different area of memory. In this section we'll briefly review these different parts, what they do, and where they're located in memory. The diagram shows the various parts of a CP/M system, and where they fit in the computer's memory.

Firstly, let's talk about the TPA or Transient Program Area. This is the part of memory where the user's program sits. This program could be a language interpreter like BASIC, or it could be a machine code program written by a user, or it could be one of the utility programs that are part of the CP/M system (eg PIP or STAT). On most CP/M machines, the TPA starts at a location 100H, meaning 100 in base 16 or HEXADECIMAL. 100H is 256 in decimal. If you don't know anything about the hexidecimal (or HEX) numbering system, now is the time to become familiar with it!

Memory Organisation - 64K System



The size of the TPA is dependent on the

amount of memory your computer has. In a 64K system (size of the Sega's memory), the TPA will be about 56K long (It will probably be a day or two until you are writing programs that large![sic! - Ed]).

The next part of the CP/M system is called the CCP, short for Console Command Processor. This does just what the name says. It deals with commands you type in from the keyboard. Therefore, every time you see the "A>"prompt it is the CCP that printed it and the CCP is waiting for you to type something in on the keyboard.

When you type something in, the CCP will either deal with your command itself, if it is a "resident command" like DIR (Display the DIRectory) or ERA (ERAse a file) or pass it on to BDOS, which tries to LOAD it off of the disk. The CCP starts at around DC00H, and uses about 2K.

I hope this will help you to understand more fully how CP/M or SegaDOS works. I will continue next issue.

Jan Jacobsen

```
10 DATA 1,5,1,5,6,4,10,5,15,5,20,3,23,3,26,4,30,2,32,2,34,3,37,3,40,3,43,8
20 DATA 43,8,43,8,43,8,43,8,43,8,51,4,51,4,60,4,55,5,63,3,66,5
30 DATA 71,6,77,6,83,3,96,3,89,4,93,5,98,4,102,5,107,2,109,4,113,6
40 DATA 119,4,123,4,127,2,127,2,129,9,138,2,140,3
50 REM
60 GOSUB 410
70 L$=H$:B$="":PRINT:PRINT "▮";
80 H$=INKEY$:IF H$="" THEN 80
90 BEEP1:BEEP0:V=ASC(H$):IF (V=13 OR V=8)ANDB$="" THEN 80
100 IF V=13 THEN PRINTCHR$(8):PRINT:PRINT "▮";:GOTO 150
110 PRINT CHR$(8);H$;"▮";:IF V=8 THEN B$=LEFT$(B$,LEN(B$)-1):FOR XX=1 TO 10:NEXT
 XX:GOTO 80
120 IF V=44 THEN H$=" "
130 IF V<>39 THEN B$=B$+H$
140 FORX=1TO15:NEXT:GOTO 80
150 H$=B$+" ":L=LEN(H$)
160 IF L>60 THEN K=42:GOTO 270
170 IF H$=L$ THEN K=43:GOTO 270
180 REM **SPLIT INTO WORDS**
190 FOR J=1 TO E:T$(J)="":NEXT :X=0:Z=1:FOR J=1 TO L
200 IF MID$(H$,J,1)=" " THEN X=X+1:T$(X)=MID$(H$,Z,J-Z):Z=J+1
210 REM **FIND KEYWORD**
220 NEXT :K=41:FOR J1=1 TO A:K$=K$(J1):FOR J=1 TO X:T$=T$(J)
230 IF K$=T$+T$(J+1) THEN K=J1:F=J+2:J=X:J1=A:GOTO 250
240 IF K$=T$ THEN K=J1:F=J+2:J=X:J1=A
250 NEXT J,J1
260 REM **SELECT REPLY**
```

```
270 BEEP:Z=L(K)+INT(T(K)*RND(1)):IF Z=Z1 THEN 270
280 REM **CONJULATE**
290 Z1=Z:R$=R$(Z):IF RIGHT$(R$,1)<>"*" THEN 370
300 J$=" ":IF F>XGOTO 360
310 FOR J1=F TO X:T$=T$(J1)
320 FOR J=1 TO B STEP 2:IF T$=C$(J) THEN T$=C$(J+1):J=B:GOTO 340
330 IF T$=C$(J+1) THEN T$=C$(J):J=B
340 NEXT J:IF J1=XANDT$="I" THEN T$="ME"
350 J$=J$+T$+" ":NEXT J1
360 R$=LEFT$(R$,LEN(R$)-1)+J$+"?"
370 LX=LX+3:IF LX>17 THEN CLS:PRINT CHR$(8);"■";:FORYX=1 TO LEN(H$):PRINT CHR$(8
);MID$(H$,YX,1);"■";:BEEP1:BEEP0:NEXTYX:PRINTCHR$(8):LX=3
380 FORYX=1 TO LEN(R$):PRINT CHR$(8);MID$(R$,YX,1);"■";:BEEP1:BEEP0:NEXT:PRINT C
HR$(8):IF Z=127ORZ=128 THEN H$="":LX=LX+2
390 GOTO 70
400 REM **INTIALISE**
410 CLS:PRINT "FINDING OUT WHO I REALLY AM........"
420 A=40:B=16:C=142:D=43:E=30:LX=7:DIM K$(A),C$(B),R$(C),L(D),T(D),T$(E)
430 FOR J=1 TO D:READ L(J),T(J):NEXTJ:J=RND(1)
440 FOR J=1 TO A:READ K$(J):NEXT
450 FOR J=1 TO B:READ C$(J):NEXT
460 FOR J=1 TO C:READ R$(J):NEXT
470 CLS:BEEP:BEEP:PRINT:PRINT"Hello. I am Eliza, a consultant.       Please make
yourself comfortable and  tell me your problem.":RETURN
480 REM
490 REM
500 REM **KEYWORDS**
```

```
510 DATA IM,IAM,ICANT,IWONT,IDONT,WANTA,WANTTO,IFELL,CANI,CANTI,CANYOU
520 DATA DONTYOU,AREYOU,WHO,HOW,WANT,WHERE,WHEN,WHY,YOUARE,YOURE,YOUR,YOU,MY
530 DATA SORRY,YES,NO,HATE,LOVE,THINK,DREAM,FRIEND,MONEY,IF,GREAT
540 DATA COMPUTER,FOOD,SHUTUP,GOODBYE,BYE
550 REM **CONJUTALIONS**
560 DATA I,YOU,I'M,YOUR'E,MY,YOUR,AN,ARE,WAS,WHERE,I'VE,YOUR'VE,MYSELF,YOURSEFL
570 DATA ME,YOU
580 REM **REPLIES**
590 DATA DOES IT WORRY YOU THAT YOU ARE*
600 DATA DID YOU THINK THAT I WOULD BE SHOCKED TO HEAR THAT YOU ARE*
610 DATA HOW LONG HAVE YOU BEEN*,DO YOU LIKE BEING*
620 DATA ARE YOU ASHAMED THAT YOU ARE*
630 DATA ONE NEVER KNOWS UNLESS ONE TRIES,ONE SHOULDN'T GIVE UP
640 DATA HAVE YOU TRIED HARD TO*
650 DATA HOW CAN YOU TELL THAT YOU CAN'T*
660 DATA WHY WON'T YOU*,WHY DO YOU REFUSE TO*, IS IS WISE NOT TO*
670 DATA  HAVE YOU ALWAYS DONE SO?,IS THAT WHY YOU WANT MY HELP?
680 DATA DO YOU WISH THAT YOU COULD*,WHY DON'T YOU*
690 DATA DOES THAT WORRY YOU?,WOULD YOU LIKE TO*
700 DATA WOULD IT BE SO BAD IF YOU DID*
710 DATA BUT IF YOU NEVER GOT A*,WHAT WOULD YOU DO WITH A*
720 DATA WHAT IF I TOLD YOU THAT I OFTEN WANT  A*
730 DATA CAN YOU SAY WHY YOU WANT TO*,WHEN DO YOU WANT TO*
740 DATA IS IT YOUR MAJOR AMBITION TO*
750 DATA WHAT DO THESE FEELINGS SUGGEST TO YOU?,DO YOU OFTEN FEEL*
760 DATA DO YOU ENJOY FEELING*,DESCRIBE WHAT IT IS LIKE TO FEEL*
```

```
770 DATA DO YOU REALY WANT TO*,CAN YOU*
780 DATA WHY ARE YOU UNABLE TO*,WOULD IT HELP IF YOU COULD*
790 DATA WOULD YOU BE SURPRISED TO LEARN THAT  I CAN*
800 DATA DON'T YOU BELIEVE THAT I CAN*,NOT VERY WELL!
810 DATA PERHAPS ONE DAY I MIGHT*,I PREFER NOT TO*,WOULDN'T YOU LIKE TO*
820 DATA WHY ARE YOU CURIOUS TO KNOW IF I AM*,DO YOU THINK I AM*
830 DATA SUPPOSE I PREFFER AT THIS POINT NOT  TO REVEAL IF I AM*
840 DATA DO YOU PREFFER TO ASK THE QUESTIONS?,WHY DO YOU ASK THAT?
850 DATA WHAT ANSWER WOULD YOU LIKE TO HEAR?,IS IT OF INTEREST TO YOU?
860 DATA YOU REALY WANT TO KNOW?,WOULD YOU CLARIFY THAT QUESTION?
870 DATA CAN YOU EXPLAIN WHY YOU ASKED THAT?,I WONDER WHAT LIES BEHIND THAT?
880 DATA PREHAPS ONLY IN YOUR IMAGINATION AM I*
890 DATA DO YOU THINK IT AMUSING TO THINK I AM*,WHY DO YOU THINK I AM*
900 DATA DO YOU WISH THAT YOU WERE*
910 DATA I THINK IT BEST IF WE TALK ABOUT YOU  NOT ME,I PREFER TO TALK ABOUT YOU
920 DATA WHY BRING ME INTO IT?,YOU SEEM VERY INTERESTED IN ME
930 DATA ARE YOU NOT SUBCONSIOUSLY REFERING    TO YOURSELF?
940 DATA WHAT IS YOUR INTEREST IN MY*,WHAT ABOUT YOUR OWN*
950 DATA YOU SEEM CURIOUS TO KNOW ABOUT MY*
960 DATA IS THAT RIGHT?,YOUR*,REALY? YOUR*,YOUR*
970 DATA PLEASE DON'T CRY,THAT'S QUITE ALL RIGHT,WHY SO DEFENSIVE?
980 DATA WHY ARE YOU APOLOGISING?,THERE'S NO NEED TO BE SORRY
990 DATA YOU APPEAR TO BE QUITE CERTAIN ON     THAT,YOU SEEM QUITE CONVINCED OF
THAT
1000 DATA AREN'T YOU BEING TOO POSATIVE?,WHAT MAKES YOU SAY YES?
1010 DATA YOU SEEM VERY CONFIDENT,YOU'RE QUITE SURE?
1020 DATA ARE YOU SURE?,WOULDN'T YOU LIKE TO THINK ABOUT THAT ?
```

```
1030 DATA AREN'T YOU BEING A TRIFLE NEGATIVE?,DO YOU MEAN THAT?
1040 DATA WHY NOT?,I THINK YOU REALY WANTED TO SAY YES
1050 DATA WHY DO YOU DETEST*,IS IT WRONG TO LOATHE*
1060 DATA DEEP DOWN,DON'T YOU REALY LOVE*
1070 DATA IS IT WRONG TO LOVE*,HOW REAL IS THIS LOVE FOR*
1080 DATA ARE YOU SURE THAT IT IS NOT JUST AN  INFATUATION?
1090 DATA YOU DON'T SEEM SURE*,ONLY THINK*,THINK OF HOPE*,HAVE YOU DOUBTS THAT*
1100 DATA ARE YOUR DREAMS FRIGHTENING?,DO YOU DREAM VERY MUCH?
1110 DATA WHAT PEOPLE APPEAR IN YOUR DREAMS?
1120 DATA CAN YOU THINK OF A RECURRING DREAM?,WHAT ABOUT NIGHTMARES?
1130 DATA WHAT ARE FRIENDS FOR,WHY DO SOME POEPLE HAVE NO FRIENDS?
1140 DATA DOES THE SUBJECT OF FRIENDS DISTURB   YOU?
1150 DATA WHY DO LOTS OF PEOPLE HAVE LOTS OF    FRIENDS?
1160 DATA IS MONEY THE ROOT OF EVIL?,WHY IS MONEY IMPORTANT TO YOU?
1170 DATA ARE YOU FREQUENTLY SHORT OF MONEY?,DO YOU THINK THAT YOU ARE POOR?
1180 DATA DOES WEALTH BRING HAPPINESS?
1190 DATA ONLY IF*,YOU DON'T SEEM SURE
1200 DATA "'GREAT'MEANING OF LARGE, FAMOUS OR GOOD ?",WHAT DO YOU MEAN BY GREAT?
1210 DATA DO YOU MEAN BIG*,WOULD IT BE EXAGGERATING WHEN YOU    SAY GREAT*
1220 DATA COMPUTERS CAN'T CONVERSE LIKE WE CAN,ARE YOU SCARED OF MACHINES?
1230 DATA WHY DO COMPUTERS SPRING TO MIND?,COMPUTERS ARE ONLY MACHINES
1240 DATA COULD A COMPUTER HELP YOU?,WHAT IS IT YOU FEAR FROM COMPUTERS?
1250 DATA WHAT FOOD DO YOU LIKE MOST?,WHY DO SOME PEOPLE OVEREAT?
1260 DATA WHAT ELSE BESIDES FOOD?,FOOD IS NECESSARY FOR LIFE
1270 DATA PLEASE DON'T TELL ME TO SHUT UP!,WHY DO YOU WANT ME TO SHUT UP?
1280 DATA THAT'S NOT VERY POLITE,WHY ARE YOU BEING SO AGGRESSIVE?
1290 DATA THAT WILL BE $1000                          NEXT PATIENT PLEASE.
```

```
1300 DATA THANKYOU FOR TALKING TO ME                NEXT PATIENT PLEASE.
1310 DATA I WOULD LIKE TO HEAR MORE,GIVE ME A SPECIFIC EXAMPLE,I SEE
1320 DATA THAT IS FACINATING,I UNDERSTAND,PLEASE CONTINUE,I DON'T UNDERSTAND
1330 DATA CAN YOU ELABORATE ON THAT?,LET'S CHANGE THE SUBJECT
1340 DATA WHY SUCH A LENGTHY REPLY?
1350 DATA PLEASE KEEP YOUR ANSWERS BREIF
1360 DATA WHY DO YOU REPEAT YOURSELF?,YOU JUST SAID THAT
1370 DATA PLEASE DON'T KEEP SAYING THE SAME THING
```

```
10 REM This routine changes the LINE
20 REM and CIRCLE functions to draw
30 REM using a pre-determined pattern
40 REM change the PATTERN of character
50 REM 255 to change draw pattern.  If
60 REM you wish to use special
70 REM characters (eg ".") then change
80 REM "FF" in the DATA in line 100
90 REM This routine is for DISKDRIVERS
100 REM ONLY.  Have fun!!          Ed.
110 REM
120 REM Install routines
130 REM
140 FOR X=&HFFF0 TO &HFFF7:READ A$:POKE X,VAL("&H"+A$):NEXT
150 REM
160 REM Enable routines
170 REM
180 POKE &H1839,&HF0:POKE&H183A,&HFF
190 POKE &H6188,&HF0:POKE&H6189,&HFF
```

```
200 REM
210 REM Define draw PATTERN
220 REM
230 PATTERN C#255,"80402010000000000"
240 REM
250 REM Demonstration
260 REM
270 SCREEN 2,2:COLOR 15,1,,1:CLS
280 FOR R=1 TO 140 STEP 8:CIRCLE(128,96),R,(RND(1)*13)+2,1.25:NEXT
290 GOTO 290
300 REM
310 REM Machine Code
320 REM
330 DATA F5,3E,FF,CD,F3,00,F1,C9
340 REM
350 REM Re-enable LINE
360 POKE&H1839,&H8C:POKE&H183A,&H61
370 REM
380 REM Re-enable CIRCLE
390 REM POKE&H6188,&H8C:POKE&H6189,&H61
```

```
1 REM This routine plays with the
2 REM backdrop colour, to get some
3 REM interesting effects try these
4 REM numbers - 23,235,10,55,150
5 REM To stop routine press space
6 REM bar                    Ed.
7 REM
10 FOR X=&HFF00 TO &HFF17
20 READ A$:POKE X,VAL("&H"+A$):NEXT
30 DATA 3E,02,CD,11,01,3C,F5,3E,F9,DE
40 DATA 01,20,FC,F1,FE,10,CD,44,01,D8
50 DATA 28,EA,18,EA
55 IF PEEK(1)=233 THEN 60
56 POKE&HFF03,&H4E:POKE&HFF04,&H4A
57 POKE&HFF11,&H86:POKE&HFF12,42
60 SCREEN 2,2:COLOR0,0,,0:CLS:REM try COLOR 1,1,,0 afterwards
70 INPUT "Number ";N:IF N>255 OR N<0  THEN BEEP:BEEP:PRINT "Must be <255 and >0!
!":GOTO 70
80 POKE&HFF08,N
90 SCREEN 2,2:CALL&HFF00
100 GOTO 70
```

```
10 REM
20 REM String Art
30 REM By Biran Broughton
40 REM
50 REM This program creates designs
60 REM like those found on the front
70 REM of the BASIC Level III
80 REM cartridge case.
90 REM
100 DIM A(10),B(10)
110 FOR I=1 TO 10:A(I)=INT(RND(-1)*255):NEXT I
120 FOR I=1 TO 10:B(I)=INT(RND(-1)*191):NEXT I
130 SCREEN 2,2:COLOR 1,1,,1:CLS
140 C=INT(RND(-1)*13)+2
150 X=A(1):Y=B(1)
160 FOR I=1 TO 100
170 J=INT(RND(1)*10)+1
180 LINE (X,Y)-(A(J),B(J)),C
190 A=A(J):Y=B(J)
200 NEXT I
210 FOR I=1 TO 1000:NEXT
220 GOTO 110
```


<<*>> I K E L A <<*>>

IKELA V1.1 is a multi-function program in which an Editor/Macro Assembler/Source File creator and a Debugger have been combined. This package brings machine code within the reach of all and by using the TRACE facility is an excellent aid to learning Assembly language.

IKELA is supplied under licence which entitles the licencee to one years Guarantee, backup's And to any updates that happen within that time plus any other help that may be needed.

```
10 REM
20 REM This routine gives your
30 REM Sega the ability to print text
40 REM in 60 columns on the graphics
50 REM screen.  To use, you must set
60 REM up a variable like I have in
70 REM line 210, it MUST BE THE FIRST
80 REM VARIABLE DEFINITION IN THE
90 REM PROGRAM, and END WITH AN "@"
100 REM only the uppercase letters
110 REM (eg ABCD ect), numbers and
120 REM punctiation, plus some other
130 REM useful symbols are catered
140 REM for.  To add your own
150 REM characters, you must get the
160 REM ASCII value and add 113, so
170 REM ASC("A")=65, and ASC(60 col "A")=65+113
180 REM This program works for DISKDRIVERS
190 REM only, a cassette version will be
200 REM published soon            Ed.
210 T$="INITALIZE@"
220 FOR X=145 TO 207:READ A$:IF A$="S" THEN PATTERN C#X,"0000000000000000":GOTO
250
230 FOR X=145 TO 207:READ A$:IF A$="S" THEN PATTERN C#X,"0000000000000000":GOTO
250
240 PATTERNC#X,A$
250 NEXT
260 DATA S
270 DATA 4040404040004000
```

IKELA supports either a Serial or Centronics Printer and comes to you for the LOW price of $100.00 which includes a very comprehensive manual of 90 pages.

For further information contact

Scott MacDonald PHONE : 046.668956
TAWARRI
2 Coolalie Ave,
CAMDEN 2570
New South Wales.

```
280 DATA S,S,S
290 DATA A0A0204080A0A000
300 DATA S
310 DATA 4080000000000000
320 DATA 4080808080804000
330 DATA 4020202020204000
340 DATA 004040A040400000
350 DATA 004040E040400000
360 DATA 0000000000408000
370 DATA 000000E000000000
380 DATA 0000000000004000
390 DATA 2020204080808000
400 DATA 40A0A0E0A0A04000
410 DATA 40C040404040E000
420 DATA 40A0202040804000
430 DATA 40A0204020A04000
440 DATA A0A0A0E020202000
450 DATA E080C02020A04000
460 DATA 40A080C0A0A04000
470 DATA E0202020404040000
480 DATA 40A0A040A0A04000
490 DATA 40A0A06020A04000
500 DATA S,S
510 DATA 0020408040200000
520 DATA 0000E000E0000000
530 DATA 0080402040800000
540 DATA 40A0202040004000
550 DATA S
560 DATA 40A0A0E0A0A0A000
570 DATA C0A0A0C0A0A0C000
580 REM C
590 DATA 40A0808080A04000
600 DATA C0A0A0A0A0A0C000
610 DATA E0808080C0808080E000
620 DATA E0808080C0808080000
630 DATA 40A0808080E0A04000
640 DATA A0A0A0E0A0A0A000
650 DATA E0404040404040E000
660 DATA 6020202020A04000
670 DATA A0A0A0C0A0A0A000
680 DATA 8080808080808E000
690 DATA A0E0A0A0A0A0A000
700 DATA C0A0A0A0A0A0A000
710 DATA 40A0A0A0A0A04000
720 DATA C0A0A0C0808080000
730 DATA 40A0A0A0E0A06000
740 REM * R??*
750 DATA C0A0A0C0A0A0A000
760 REM
770 DATA 40A0804020A04000
780 DATA E0404040404040000
790 DATA A0A0A0A0A0A04000
800 DATA A0A0A0A0A0404000
810 DATA A0A0A0A0A0E0A0000
```

```
820 DATA A0A0A040A0A0A000
830 DATA A0A0A0A040404000
840 DATA E0202040808080E000
850 DATA S,S,S
860 DATA 40A0000000000000
870 FOR X=&HFFD6 TO &HFFFE:READ A$:POKE X,VAL("&H"+A$):NEXT:PT=&HFFD6
880 SCREEN 2,2:COLOR 15,1,,1:CLS:BEEP:BEEP:CURSOR 30,86:T$="SIXTY COLUMN CHARACT
ERS AND ROUTINES INSTALLED.@":CALL PT
890 DATA 06,71,2A,58,99,23,23,23,CD
900 DATA F9,00,7E,FE,40,28,15,80,CD
910 DATA F3,00,3E,04,8B,38,04,5F,23
920 DATA 18,EE,1E,08,3E,08,82,57,18
930 DATA E6,CD,FC,00,C9
```

```
150 DATA 440,370,311,13,1
160 DATA 440,370,311,0,0
170 DATA 440,370,311,13,1
180 DATA 440,370,123,15,1
190 DATA 440,370,311,13,1
200 DATA 440,370,311,0,0
210 DATA 440,370,311,13,1
220 DATA 449,379,311,0,0
230 DATA 247,0,0,15,1
240 DATA 247,379,311,0,0
250 DATA 311,247,220,13,1
260 DATA 370,247,311,13,1
270 DATA 523,440,123,15,1
280 DATA 523,440,311,13,1
```

```
10 READ FA,FB,FC,V,D
20 IF V=0 THEN SOUND0:GOTO 10
30 IF FA=-1 THEN SOUND0:END
40 IF FA THEN SOUND 1,FA,V
50 IF FB THEN SOUND 2,FB,V
60 IF FC THEN SOUND 3,FC,V
70 FOR X=1 TO D*100:NEXT:GOTO 10
80 DATA 330,165,0,15,1
90 DATA 330,247,196,13,1
100 DATA 392,330,247,13,1
110 DATA 494,392,123,15,1
120 DATA 494,392,330,13,1
130 DATA 523,440,330,13,1
140 DATA 494,392,0,15,1
```

```
290 DATA 494,392,311,13,1
300 DATA 440,370,196,15,1
310 DATA 392,330,247,13,1
320 DATA 0,0,0,0,0
330 DATA 392,330,247,13,1
340 DATA 392,330,123,15,1
350 DATA 392,330,247,13,1
360 DATA 0,0,0,0,0
370 DATA 392,330,247,13,1
380 DATA 0,0,0,0,0
390 DATA 330,165,0,15,1
400 DATA 392,330,247,13,1
410 DATA 494,147,0,13,1
420 DATA 659,523,392,15,2
430 DATA 587,494,392,13,1
440 DATA 587,494,0,15,1
450 DATA 523,440,262,13,2
460 DATA 523,440,0,15,1
470 DATA 523,440,0,13,1
480 DATA 0,0,0,0,0
490 DATA 523,440,0,13,1
500 DATA 0,0,0,0,0
510 DATA 587,494,392,15,1
520 DATA 587,494,392,13,1
530 DATA 659,523,440,13,1
540 DATA 494,392,123,15,1
550 DATA 494,392,311,13,1
560 DATA 440,370,311,13,1
570 DATA 494,392,165,15,1
580 DATA 330,247,196,13,2
590 DATA 330,247,123,15,1
600 DATA 330,247,196,13,2
610 DATA -1,0,0,10,0
```

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